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ABSTRACT

This study investigated the benefits of online research methods over manual methods for novice researchers. It was hypothesized that novice researchers who conduct online searches submit better research projects than those who use manual methods. Undergraduate students in two classes of a journalism course on "Law and Mass Communications", taught in spring 1990 and fall 1990, were required to locate and evaluate landmark judicial decisions pertaining to a particular topic on the media. Students in both classes had individual 1-hour consulting appointments with the librarian or research assistant to review manual/online searching methods in relation to their topics. Two bibliographies prepared by the students using either printed legal reference materials or online searching of the LEXIS system were analyzed to determine the number of related judicial decisions retrieved and the number of landmark decisions included in the total number. Comparison of the results for the two groups revealed a variety of reasons why novice researchers would perform better using online research methods, including ease of searching, time saved, the ability to use cases not available in their university library, and the availability of secondary materials on LEXIS. The study data are presented in two tables. The first table identifies the output variables (e.g., retrieval size and precision) of student manual searching versus student online searching, and the second table indicates the student responses to survey questionnaires about time, satisfaction, levels of confidence, ease of use, and future use of search method. (15 references) (MAB)

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FOSTERING INFORMATION LITERATE STUDENTS AT A MEDIUM-SIZED RESEARCH LIBRARY: A Comparison of Manual and Online Searches on an Interdisciplinary Topic

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Council on Library Resources
Faculty/Librarian Cooperative Research Grant CLR 860
Final Narrative Report
July 30, 1991

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FOSTERING INFORMATION LITERATE STUDENTS AT A MEDIUM-SIZED RESEARCH LIBRARY: A COMPARISON OF MANUAL AND ONLINE SEARCHES ON AN INTERDISCIPLINARY TOPIC

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Objectives of the Project

Our goal was to identify effective library research methods taught in a required journalism course on Law and Mass Communication to undergraduate students with little or no background in legal research. For the course assignment the students needed to locate and evaluate "landmark" judicial decisions pertaining to a particular topic on the media. The intent of our project was to compare the impact of manual and online research methods on the students'completed assignments . We wanted to see whether the students could conduct their own online searches on LEXIS, a full-text legal database. We also wanted to determine which research method--manual or online--enabled the students to learn the basics of legal research and to identify relevant judicial decisions more quickly and easily, thereby fostering self-reliant and successful researchers.

Procedure

Our project focused on two classes of "Law of Mass Communication" taught in Spring 1990 and Fall 1990. Students in "Law of Mass Communication" write two research bibliographies; one during the sixth week of the semester and the second during the tenth week of the term. In the first bibliography, the students identify judicial decisions that are closely related to their chosen topic on the media. In the second bibliography, the students read the decisions from the first bibliography and prepare abstracts on the "landmark" decisions. The Spring 1990 class (manual group) used only printed legal reference materials for the two bibliographies because LEXIS was not available in the library at that time. In July 1990 the library obtained an educational subscription to LEXIS and the Fall 1990 class (online group) conducted online searches for the two bibliographies. Students in the Spring and Fall classes had individual one-hour consulting appointments with the librarian or research assistant to review manual/online searching methods in relation to their topics.

It was our hypothesis that novice researchers (those with little or no background in a subject) who conduct online searches, submit better research projects than those who use manual methods. To test this hypothesis, we analyszed the results of our project based upon the comparison of the two classes' bibliographies (faculty evaluated) and questionnaires completed by the students at the end of the course (in terms of time spent, ease of use, satisfaction with results, and confidence in research method).

Results

Bibliographies:

First Bibliography:

Assignment:

In the first bibliography the manual and online groups were required to find between 20 to 25 judicial decisions that the students perceived to be closely related to their topic. This assignment focused on the students' ability to locate court cases on a particular topic using print materials (such as legal digests and encylopedias) or online databases (such as LEXIS).

Retrieval Size:

On average the manual group found slighty more court cases than the online group. The manual group retrieved 25 cases and the online group identified 22. While there was no statistical significance in the difference between the results of the two groups, it is interesting that more court cases were retrieved using manual research methods.

Precision:

The faculty member evaluated the number of relevant court cases on each student's first bibliography. For this assignment the faculty member judged a court case to be relevant if it discussed all or most of the legal issues involved with the student's topic.

The precision of the research results for the manual and online groups, as expressed in Table 1, is reported as a percentage of the retrieval size. In Bibliography 1 the mean number of relevant decisions for the online group was 18%; the result for the manual group was 94% . We used t-tests to compare the results of the two groups and found that the online group did significantly better than the manual group ($T = -17.08$, $p < .0001$).

The highly significant score of the online group over the manual group on the first bibliography

verifies the success rate of online searches as a method of identifying relevant court cases on a particular topic by individuals with little or no background in a subject area. It is easier for novice researchers to find cases by using online methods than by using print methods.

Second Bibliography:

Assignment:

In the second bibliography the manual and online groups were required to select from the first bibliography between 4 to 10 judicial decisions that are landmark cases in that area of law. The students were also asked to write detailed abstracts about each of the court cases that they had selected. The purpose of this assignment was to go beyond the students' abilty to find court cases. In addition to an understanding of basic legal research which the first bibliography attempted to measure, in the second bibliography we wanted to determine how much the students understood about legal principles by assessing students' evaluation and description of the importance of judicial decisions.

Retrieval Size:

As with the first bibliography, the manual group selected slightly more judical decisions on average than the online group. The manual group listed 5 court cases; the online group cited 4 court opinions.

Precision:

In the second bibliography the faculty member determined the number of landmark decisions listed and abstracted by the students. A judicial decision is considered a landmark case if it represents an important event or turning point in legal matters.

Precision for the manual and online group on the second bibliography, as expressed in Table 1, is reported in the same manner as the first bibliography. Using a t-test comparison, the mean score for the manual group was 20%; the mean score for the online group was 49%. The difference between the groups on the second bibliography was significant ($T = -2.52$, $p < .014$).

While the score of the online group over the manual group on the second bibliography is not as highly significant as the score on the first bibliography, it is still statistically significant. Individuals with little or no background in legal research who use online research methods do a better job of understanding the legal principles involved with a court case and evaluating the importance of these legal decisions than those using printed methods.

Questionnaires:

As expressed in Table 2, the responses of the manual and online groups were compared in relation to the following variables: amount of time spent on the search, ease of using the research method, satisfaction with the results found by using the research method, confidence of the research method alone or with the help of a librarian and expected future use of the research method. There was no statistical significance in the differences between the two groups' responses.

The manual group reported spending an average of 6 hours preparing and conducting their search; the online group spent 1 hour for their searching time. One student from the manual group further commented that it took too much time to find cases using printed sources.

In terms of ease of use the manual group generally described their reseach method as somewhat easy to somewhat difficult (70%) while the online group selected easy to somewhat easy (74%). We were also interested in the fact that, contrary to some research on gender related computer anxiety, there was no statistically significant difference in the response by the online group based on sex. In addition, some students from the online group added that they used LEXIS to use printed materials, like law review articles.

On the whole both manual and online groups reported being very satisfied or moderately satisfied with the results of their searching. Students from the online group commented that their research method contributed to their assigned project in such ways as finding court cases quickly and helping focus their research topic.

Both groups were very confident to moderately confident to use manual or online research methods with help of a librarian or alone. However, in both instances the online group expressed greater confidence in using its research method than the manual group.

Both groups of students were asked whether they would use their research methods in the future. 32% of the online group responded that they would always use LEXIS while 18% of the manual group reported that they would always use printed legal materials. One student from the online group commented that everyone taking a course involving legal research should learn how to do

online searching.

Conclusions

Over the past three years we have taught students in the "Law of Mass Communication" legal research using printed legal reference materials. It had been our experience that students found using printed legal research methods time consuming and that the quality of the completed assignment suffered as a consequence of this obstacle. The results of our project comparing manual and online research methods confirm our past impressions. Novice researchers using online research methods identified more relevant court cases than those using manual research methods. Furthermore, the online group were able to distinguish more landmark cases that the manual group.

The results of our research project indicate a variety of reasons why novice researchers would perform better using online research methods. Many students found online searching to be easy. Court cases listed in the research bibliographies show that some students were able to use cases not available in our library. On the questionnaires the online group reported the time saved using LEXIS; this factor would help reduce frustration with the assignment. Some students from the online group commented on reading law review articles for their research project; the availability of secondary materials on LEXIS encouraged some students to consult numerous sources.

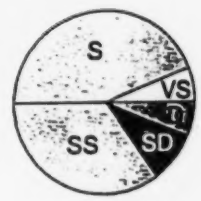
The course, "Law of Mass Communication," is an interdisciplinary course investigating the legal parameters within which mass communication operates. All journalism majors are required to take this course but very few, if any, have had any background in doing legal research. However, this situation is not an unusual event and the results of this project are not isolated to legal research. The proliferation of information and avenues for retrieving information have contributed to blurred boundary lines for all subject areas and it is becoming increasingly common for researchers to venture into subject areas outside their specializations. This research project demonstrates the benefits online research methods offer novice researchers by enabling the researchers to be self-reliant and successful.

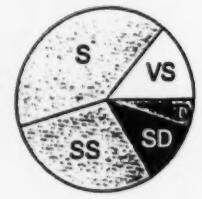
TABLE 1. Student Manual Searching Versus Student Online Searching: A Comparison of Output Variables

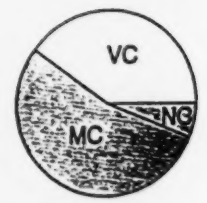
Variable	Student Manual (N = 34) Mean	SD	Student Online (N = 35) Mean	SD	T Value	Significance
Bibliography 1:						
Identify 20-25 cases on your topic.						
Retrieval Size	24.76	1.06	21.94	12.04	1.38	NS
Precision (%)	18.38	.16	94.46	.20	-17.08	$p < .00001$
Bibliography 2:						
After reading the cases, select 5-10 most relevant.						
Retrieval Size	4.32	3.19	3.54	3.6	.95	NS
Precision (%)	20.59	.41	48.57	.51	-2.52	$p < .014$

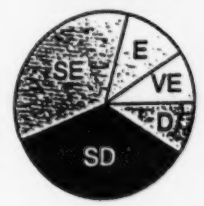
TABLE 2. Frequency of Responses to Survey Questionnaire About Time, Satisfaction, Levels of Confidence, Ease of Use, & Future Use of Search Method

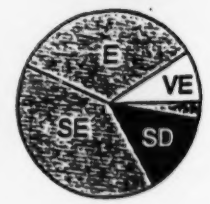
Variable	Student Manual Group (N = 34)		Manual	Online	Student Online Group (N = 35)		Variable
Time Spent	6 hrs.				1 hr.		**Time Spent**
Satisfaction							**Satisfaction**
Very Satisfied	VS	6%			VS	14%	
Satisfied	S	44%			S	40%	
Somewhat Satisfied	SS	35%			SS	29%	
Somewhat Disappointed	SD	9%			SD	11%	
Disappointed	D	6%			D	5%	
Confidence: Do search with help.							**Confidence: Do search with help**
Very Confident	VC	35%			VC	40%	
Moderately Confident	MC	50%			MC	54%	
No Confidence	NC	15%			NC	6%	
Confidence: Do search alone.							**Confidence: Do search alone.**
No Help	No Help	15%			No Help	20%	
With Help	W/Help	77%			W/Help	66%	
No Confidence	NC	9%			NC	14%	
Ease of Use							**Ease of Use**
Very Easy	VE	9%			VE	9%	
Easy	E	12%			E	34%	
Somewhat Easy	SE	35%			SE	40%	
Somewhat Difficult	SD	35%			SD	14%	
Difficult	D	9%			D	3%	
Future Use							**Future Use**
All	All	18%			All	31%	
Many	Many	59%			Many	49%	
Rarely	Rarely	21%			Rarely	20%	
Never	Never	3%			Never	0%	

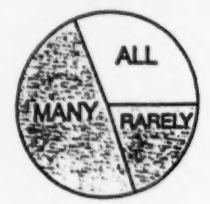












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